

Amendments to the Claims

Claim 1 (Currently amended): A surface mount MELF capacitor comprising:  
a wire having opposite first and second end surfaces and side surface;  
a conductive powder element electrically connected to the wire exposing the second and first end surfaces, and covering the wire side surfaces;  
a first and second portion of the side surface adjacent the first and second end surfaces is exposed without the conductive powder element;  
the first portion having an inner part and an outer part, insulative material surrounding at least a portion of the conductive powder element, and a portion of the wire side surfaces, and a portion of the inner part of the first end;  
a first terminal formed by a first body of conductive material disposed ~~over the first end surface of the wire upon a portion of the outer part of the first portion~~ and a portion of the insulating material; and  
a second terminal formed by a second body of conductive material disposed over the conductive powder element and being electrically connected to the second end of the conductive powder element.

Claim 2 (Original): The surface mount MELF capacitor of claim 1 wherein the first terminal is an anode and the second terminal is a cathode end.

Claim 3 (Original): The surface mount MELF capacitor of claim 1 wherein the conductive powder element is made of powder.

Claim 4 (Original): The surface mount MELF capacitor of claim 3 wherein the powder is from the group consisting of: Ta, Nb, Hf, Zr, Ti, V, W, Be, and Al.

Claim 5 (Original): The surface mount MELF capacitor of claim 3 wherein the powder is a substrate of a metal from the group consisting of: Ta, Nb, Hf, Zr, Ti, V, W, Be, and Al.

Claim 6 (Original): The surface mount MELF capacitor of claim 3 wherein the powder has been electrophoretically deposited upon the wire.

Claim 7 (Original): The surface mount MELF capacitor of claim 1 wherein the conductive powder element has a density between 3-8 g/cc.

Claim 8 (Original): The surface mount MELF capacitor of claim 1 wherein the conductive powder element has a capacitance-voltage between 10 CV and 150 KCV.

Claims 9-16 (Cancelled).

Claim 17 (Currently amended): A surface mount MELF capacitor comprising:  
a wire having opposite first and second ends and a side surface;  
a conductive powder element having been ~~electrophoretically~~ electrophoretically deposited around the side surface;  
a dielectric film formed around the conductive powder element;  
a solid electrolyte formed around the dielectric film;  
a conductive counterelectrode layer formed around the solid electrolyte;  
a first and second portion of the side surface adjacent the first and second end surfaces exposed without the conductive powder element, the dielectric film, the solid electrolyte, and the conductive counterelectrode layer;  
the first portion having an inner and outer part, an insulative layer formed around the conductive counterelectrode layer, the second portion of the side surface, and the inner part of the first portion;  
an anode terminal of conductive material disposed upon the outer part of the first portion and a portion of the insulating material;

an opening formed in the insulative layer exposing the conductive counterelectrode layer, a cathode terminal of conductive material disposed within the opening.

Claim 18 (Previously presented): The surface mount MELF capacitor of claim 17 wherein the conductive counterelectrode layer has a carbon graphite layer in contact around the solid electrolyte and a silver layer around the carbon graphite layer.

Claim 19 (Previously presented): The surface mount MELF capacitor of claim 17 wherein the first and second portion of the side surface are formed by laser cutting through the conductive powder element, the dielectric film, the solid electrolyte, and the conductive counterelectrode layer.

Claim 20 (Previously presented): The surface mount MELF capacitor of claim 17 wherein the insulative layer opening is formed by laser cutting through the insulation.

Claim 21 (Previously presented): The surface mount MELF capacitor of claim 17 wherein the anode terminal and cathode terminal are in horizontal alignment around a circumference outside the insulation layer.

Claim 22 (Previously presented): The surface mount MELF capacitor of claim 17 wherein the conductive powder element has a density between 3-8 g/cc.

Claim 23 (Previously presented): The surface mount MELF capacitor of claim 17 wherein the conductive powder element has a capacitance voltage between 10CV and 150KCV.

Claim 24 (Currently amended): A series of surface mount MELF capacitors produced using a reel to reel process, the series comprising:

a wire having opposite first and second ends and an outer circumference;

a plurality of spaced apart surface mount MELF capacitors that have been formed upon the wire;

each surface mount MELF capacitor having:

a conductive powder element ~~electrophoretically~~~~electrophoretically~~ deposited upon the wire and defined by a first and second portion of exposed wire, the first portion having an inner part and an outer part;

an insulative layer formed around the conductive powder element the second portion of exposed wire and the inner part of the first portion;

an anode terminal of conductive material disposed upon the outer part of the first portion and a portion of the insulating material;

a cathode terminal of conductive material disposed within an opening formed in the insulative layer and in contact with the conductive powder element.

Claim 25 (Previously presented): The series of surface mount MELF capacitors of claim 24 further comprising a cut point between each surface mount MELF capacitor.